REMARKS/ARGUMENTS

Claims 1-12 were pending in the present application before the amendment as set forth above. By this Amendment, claims 1-11 are amended, claim 12 is withdrawn, and new claims 13-14 are added.

In the Office Action mailed October 3, 2006, the Examiner rejected claims 1 and 3-5 under 35 U.S.C. §101 as non-statutory matter, rejected claims 1-6 under 35 U.S.C. §112, first paragraph, for various reasons, and objected to claims 7-11 for improper form.

Applicant appreciates the Examiner's careful review of the present application .

In response, as set forth above, claims 1-5 have been amended to clearly recite an isolated anti-anti-idiotypic antibody, a patentable statutory subject matter, claims 7-11 have been amended for proper form.

Moreover, new claims 13 and 14 have been added to conform claims to the embodiments of the invention, which are disclosed in the specification and original claim 9.

Additionally, the specification has been amended to contain the deposit information on the biological material, as suggested by the Examiner.

Support for the amendments set forth above can be found in the disclosure as originally filed. Applicant asserts that no new matter is added.

It is now believed that amended claims 1-11, and new claims 13 and 14 are in condition for allowance at least for the reasons set forth below and such allowance is respectfully requested.

The following remarks herein are considered to be responsive thereto.

Claim Objections

Claims 7-11 were objected to as being in improper form because a multiple dependent claim cannot depend upon another multiple dependent claim.

Applicant respectfully submits that amended claims 7-11 have overcome the rejection as they are in proper form.

Therefore, it is respectfully requested that the objections under 35 CFR 1.75(c) be withdrawn.

35 U.S.C. §101 Rejection

Claims 1 and 3-5 were rejected under 35 U.S.C. §101 because the claims did not distinguish from naturally occurring products. The Examiner advised that the "claims should be amended to indicate the hand of the inventor, e.g., by insertion of 'isolated' or 'purified.'"

Applicant has amended claims 1 and 3-5 accordingly.

Therefore, it is respectfully requested that the rejection under 35 U.S.C. §101 be withdrawn.

35 U.S.C. §112 Rejection

Claims 2-6

Claims 2-6 were rejected under 35 U.S.C. §112, first paragraph, for failing to comply with the enablement requirement. Specifically, the Examiner stated that "the invention appears to employ novel biological materials, specifically monoclonal anti-idiotypic antibody ACA125 produced by the hybridoma 3D5 (DSM ACC2120). Since the biological materials are essential to the claimed invention, they must be obtainable by a repeatable method set forth in the specification or otherwise readily available to the public. If the biological materials are not so obtainable or available, the requirements of 35 U.S.C. §112 may be satisfied by a deposit of the biological materials."

Applicant respectfully submits that the deposit of the specific biological material DSM ACC2120 was already effected on March 3, 1993 under the Budapest Treaty. Thus, the DSM ACC2120 was irrevocably and without restriction or condition released to the public. A copy of the deposit receipt for DSM ACC2120 is attached in Exhibit A.

In addition, the specification has been amended to contain the accession number for the deposit, the date of the deposit, the name and address of the depository, and a description of the deposited material sufficient to specifically identify it to permit examination. Applicant asserts that no new matter is added by this amendment.

Furthermore, the specification describes the invention sufficiently. It teaches how isolated anti-anti-idiotypic antibodies, or Ab1' antibodies, can be obtained successfully.

Relevant procedures are described. *E.g.*, *see* page 3, last paragraph, and page 4 of the application as filed. For instance, a polyclonal anti-anti-idiotypic antibody response can be induced in a patient or an animal by vaccination with the anti-idiotypic antibody Ab2 produced by hybridoma 3D5. The desired Ab1' antibodies from said polyclonal antibody response then can be isolated from the serum, e.g., by affinity chromatography, using CA125 as antigen. The binding of the inventive anti-anti-idiotypic antibodies to the tumor associated antigen CA125 is clearly emphasized in the present application, e.g, feature (ii) of claim 1 and, thus, can be readily used for purification and isolation of the desired anti-anti-idiotypic antibodies.

Accordingly, it is respectfully requested that the rejection of claims 2-6 under 35 U.S.C. §112, first paragraph, be withdrawn.

Claims 1-6

Claims 1-6 were rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement. In the Office Action, the Examiner made the following assertions:

(A) "It is unclear whether Ab1' antibody or something else in the serum increased the death of OAW-42 cells, as compared to OAW-42 cells treated with preantisera."

(B) "Therapeutic cancer treatments, in general, are unpredictable, as underscored by Gura (Science, 1997, 278:1041-1042) who discussed the potential shortcoming of potential anti-cancer agents including extrapolating from in vitro to in vivo protocols, the problems of drug testing in knockout mice, and problems associated with cologenic assays. Indeed, since formal screening began in 1955, thousands of drugs have shown activity in either cell of animal models, but only 39 that are used exclusively for chemotherapy, as opposed to supportive care, have won approval from the FDA."

(C) "The instant application is claiming an anti-anti-idiotypic antibody that provides a therapeutic effect without providing any in vivo data, hence the claimed invention is not enabled."

Applicant respectfully traverses the enablement rejection. Before replying to the Examiner's aforementioned points (A)-(C), however, Applicant wants to direct the Examiner's

attention to the MPEP rules on the Enablement Requirement as it will be the basis of the Applicant's response.

MPEP states that "***[a]s long as the specification discloses at least one method for making and using the claimed invention that bears a reasonable correlation to the entire scope of the claim, then the enablement requirement of 35 U.S.C. 112 is satisfied.***" See §2164.01(b). (Emphasis added.)

Moreover, MPEP states that "***[a]ny enabled use that would reasonably correlate with the entire scope of that claim is sufficient to preclude a rejection for nonenablement based on how to use.***" See §2164.01(c). (Emphasis added.)

Regarding the working example, MPEP states that: (1) "***only an enabling disclosure is required***, applicant need not describe all actual embodiment;" (2) "***[a] single working example in the specification for a claimed invention is enough to preclude a rejection which states that nothing is enabled*** since at least that embodiment would be enabled;" (3) "[t]he presence of only one working example should never be the sole reason for rejecting claims as being broader than the enabling disclosure;" (4) "[t]o make a valid rejection, one must evaluate all the facts and evidence and state why one would not expect to be able to extrapolate that one example across the entire scope of the claims; and (5) "***if the art is such that a particular model is recognized as correlating to a specific condition, then it should be accepted as correlating unless the examiner has evidence that the model does not correlate.*** Even with such evidence, the examiner must weigh the evidence for and against correlation and decide whether one skilled in the art would accept the model as reasonably correlating to the condition." "***A rigorous or an invariable exact correlation is not required.***" See § §2164.02. (Emphasis added.)

Furthermore, MPEP spells out the burden on the Examiner under the enablement requirement as follows:

> "A specification disclosure which contains a teaching of the manner and process of making and using an invention in terms which correspond in scope to those used in describing and defining the subject matter sought to be patented must be taken as being in compliance with the enablement requirement of 35 U.S.C. 112, first paragraph. . . . ***[T]he examiner should always look for enabled, allowable subject matter and communicate***

to applicant what that subject matter is at the earliest point possible in the prosecution of the application."

See §2164.04. (Emphasis added.)

Moreover, MPEP states that "***considerations made by the FDA for approving clinical trails are different from those made by the PTO in determining whether a claim is enabled. (Testing for full safety and effectiveness of a prosthetic device is one properly left to the [FDA]***)" See §2164.05. (Emphasis added.)

Applying the MPEP rules, Applicant hereby addresses each point raised by the Examiner in the Office Action regarding the enablement of the claimed invention as follows:

Reply (A):

The specification clearly shows that anti-anti-idiotypic antibodies mediate antibody-dependent cellular cytotoxicity (ADTCC) against CA125-expressing tumor cells. *See* Example on pages 7-9, and FIG. 2. For instance, Ab1' antibody was effective in mediating ADTCC against CA125-expressing ovarian carcinoma tumor cell lines. This was not only observed in OAW-42 but also in other CA125-positive cell lines, e.g., OVCAR57. In particular, FIG. 2 shows that the prevaccination serum had the same effect on both OAW-42 and SKOV-3 cells in causing cell lysis (about 2.5% lysis in each cell line). However, the post-vaccination serum from the same patient had different effects on OAW-42 and SKOV-3 cells in causing cell lysis (about 23% cell lysis in OAW-42 cells versus about 6% cell lysis in SKOV-3 cells). ***The differences between the CA125-positive and CA125-negative cells were significant in a post-vaccination serum ($p < 0.0003$), and were not seen in the prevaccination serum of the same patient.*** *See* FIG. 2. ***It is, therefore, ruled out that components other than Ab1' antibodies caused the death of CA125-positive cells.*** By the analysis of pre- and post- vaccination sera, the period between the two analyses being 3 months each, in particular, a difference between pre- and post-vaccination could be clearly demonstrated ($p < 0.0003$).

Thus, ***the data presented in the application clearly show that Ab1' antibody was effective in mediating ADTCC against CA125-expressing ovarian carcinoma tumor cell lines.***

Reply (B):

Firstly, the data presented in the application are valid data which are not affected by Gura.

Secondly, the article by Gura is not applicable to the instance application. Gura talks about that the systems used for screening anticancer drugs may end up discovering good mouse drugs rather than good human drugs because of the experimental models used. ***Gura mentions nothing about anti-anti-idiotypic antibodies or Ab1' antibodies,*** which are the subject matter claimed by claims 1-6.

Moreover, ***Gura does not have any criticisms on the experimental designs and methods that were disclosed in the specification of the instant application.***

Furthermore, the anti-anti-idiotypic antibodies or Ab1' antibodies of the present invention had been proven effective in patients *in vivo* before they were used "to further characterize the Ab3 response and to show to what extent the anti-anti-idiotypic Ab3 antibodies (i.e., Ab1') can mediate an antibody-dependent cellular cytotoxicity (ADTCC) against CA125-expressing tumor cells." *See* the Specification, Example on page 7, last paragraph. In other words, the anti-anti-idiotypic antibodies or Ab1' antibodies described in the working examples were present in the post-vaccination serum of the cancer patients who had been immunized with the anti-idiotypic antibody ACA125 (Ab2) for "induction of specific anti-anti-idiotypic Ab3 antibodies (i.e., Ab1') against ACA125 (Ab2)," and ***"[t]he induction of specific anti-anti-idiotypic Ab3 antibodies (i.e., Ab1') against ACA125 (Ab2)"*** in these patients ***"has a positive effect on the survival of the patients."*** *Supra.*

Thirdly, ***"considerations made by the FDA for approving clinical trails [or new drugs] are different from those made by the PTO in determining whether a claim is enabled. (Testing for full safety and effectiveness of a prosthetic device is one properly left to the [FDA])"*** *See* MPEP §2164.05. Thus, Gura's statement that only 39 out of thousands of drugs have won approval from the FDA since formal screening began in 1955 has no any weight under the Patent law and should not be used to against the present application under enablement.

Reply (C):

It appears to Applicant that the Examiner did not fully appreciate the experimental design and methods disclosed in the Example. Applicant was basically following Koch's postulates, which is considered one of the most rigorous ways in proving something in pathology or medicine: (1) the Ab1 must be found in the plasma of ovarian carcinoma patients after induction with Ab2 *in vivo*, and (2) the Ab1-containing plasma must be reisolated from the experimentally induced patients to prove its cancer cell cytotoxicity *in vitro*. As such, a clinical phase I/II study ovarian carcinoma patients were immunized with the Ab2 to induce Ab1 *in vivo*, and the induced Ab1 in the plasma was then used to show it can mediate an antibody-dependent cellular cytotoxicity against CA125-expressing tumor cells *in vitro*.

Therefore, in the instant case, it is both scientifically and legally incorrect for the Examiner to assert that "[t]he instant application is claiming an anti-anti-idiotypic antibody that provides a therapeutic effect without providing any in vivo data, hence the claimed invention is not enabled."

Accordingly, it is respectfully requested that the §112 enablement rejection be withdrawn.

Summary

In the Summary section of the Office Action, the Examiner stated "[c]laims 7-11 are objected to and have not been further treated on the merits," and that claims 1-6 were "rejected under 35 U.S.C. 112, first paragraph, but free of the prior art."

Applicant respectfully submits that amended claims 7-11 have overcome the objection as they are in proper form. Moreover, ***amended claims 7-11 and new claims 13 and 14 are free of prior art at least for the reason that they depend upon a basic claim, i.e., claim 1***, which the Examiner correctly admitted was free of prior art. Accordingly, amended claim 1, and all other pending claims 2-11, 13 and 14 that depend from amended claim 1, are allowable. Individual consideration of each pending claim is respectfully requested.

Any amendments to the claims not specifically referred to herein as being included for the purpose of distinguishing the claims from cited references are included for the purpose of clarification, consistence and/or grammatical correction only.

It is now believed that the application is in condition for allowance and such allowance is respectfully requested.

CONCLUSION

Applicant respectfully submits that the foregoing Amendment and Response place this application in condition for allowance. If the Examiner believes that there are any issues that can be resolved by a telephone conference to facilitate the prosecution of this application, or that there are any informalities that can be corrected by an Examiner's amendment, please call the undersigned at 404-495-3678.

Respectfully submitted,
MORRIS, MANNING & MARTIN, LLP

January 3, 2007

Tim Tingkang Xia
Attorney for the Applicant on the Record
Reg. No.: 45,242

Morris, Manning & Martin, LLP
3343 Peachtree Road, N.E.
Atlanta, Georgia 30326-1044
Telephone: 404.233.7000
Customer No. 24728

S/N 10/507,046

EXHIBIT A

Exhibit A

BUDAPEST TREATY ON THE INTERNATIONAL
RECOGNITION OF THE DEPOSIT OF MICROORGANISMS
FOR THE PURPOSES OF PATENT PROCEDURE

INTERNATIONAL FORM

Universitäts-Frauenklinik
Sigmund-Freud-Str. 25
5300 Bonn-Venusberg

VIABILITY STATEMENT
issued pursuant to Rule 10.2 by the
INTERNATIONAL DEPOSITARY AUTHORITY
identified at the bottom of this page

I. DEPOSITOR	II. IDENTIFICATION OF THE MICROORGANISM
Name: Universitäts-Frauenklinik Address: Sigmund-Freud-Str. 25 5300 Bonn-Venusberg	Accession number given by the INTERNATIONAL DEPOSITARY AUTHORITY: DSM ACC2120 Date of the deposit or of the transfer[1]: 1993-03-03

III. VIABILITY STATEMENT

The viability of the microorganism identified under II above was tested on 1993-03-08 .[2]
On that date, the said microorganism was

(x)[3] viable

( )[3] no longer viable

IV. CONDITIONS UNDER WHICH THE VIABILITY TEST HAS BEEN PERFORMED[4]

IV. INTERNATIONAL DEPOSITARY AUTHORITY

Name: DSM DEUTSCHE SAMMLUNG VON MIKROORGANISMEN UND ZELLKULTUREN GmbH Address: Mascheroder Weg 1 B D-3300 Braunschweig	Signature(s) of person(s) having the power to represent the International Depositary Authority or of authorized official(s): U. Weiss Date: 1993-03-22

1 Indicate the date of original deposit or, where a new deposit or a transfer has been made, the most recent relevant date (date of the new deposit or date of the transfer).
2 In the cases referred to in Rule 10.2(a) (ii) and (iii), refer to the most recent viability test.
3 Mark with a cross the applicable box.
4 Fill in if the information has been requested and if the results of the test were negative.

Form DSM-BP/9 (sole page) 0787